

Residents are right, and I am confused: A short story

*Kathleen Powell-Mattioli, MD; Lata M. Gupta, MD;
Alixandra Crepeau, MD; Suneet P. Chauhan, MD*

As the new clinician at Aurora Health Care, I was volunteered for a didactic sessions with the residents. They were eager and enthusiastic to start; I was comfortable and confident discussing the topic: aberrant amniotic fluid.

Just like my grandfather, who taught in India in the last century, I walked up to the black board and outlined the discussion for the next hour:

- Definition
- Incidence
- Risk Factors
- Diagnosis
- Management options

Looking in the residents' insatiable eyes, I asked, "Who can tell me what oligohydramnios is?"

Five hands were raised instantly. I knew they were prepared and that I was blessed being in an academic center.

Before I could ask for a volunteer, someone said: "Amniotic fluid index less than 5.0 cm."

"No, amniotic fluid index of 5.0 cm or less," corrected another one, adding, "it was in one of the old ER episodes, where the mother died during the Zavanelli maneuver." The few who recalled the show nodded in

agreement; others scoffed, while one muttered, "Whatever."

"It depends on the gestational age," someone else said.

"Actually it is no pocket of amniotic fluid of 1 cm or 2 cm," said the foreign graduate resident.

The fifth resident trumped everyone by quoting ACOG: "The practice bulletin on post-term pregnancy states oligohydramnios is no measurable vertical pocket more than 2-3 cm."

"Wow! Holy cow." I exclaimed. "If we cannot even agree on the definition, how can we talk about the abnormal condition?" Dismissing the rest of didactic session in frustration, I assigned them a task: In a tabular form, present the definitions of oligohydramnios and hydramnios from the textbooks they rely on and then we would continue the discussion.

Definitions of oligohydramnios and hydramnios

One wonderful Wisconsin winter morning, 3 residents gathered in my office and brought a table. They were late with the assignment, but it was finally done.

"We would have done this sooner, but the work hour restriction..." said one of them.

"We're always cognizant and compliant with the 80 hour work week," chimed another, with a mischievous smile.

In rapid-fire succession, they ex-

plained how they made the table. One of them took the Compendium 2005 as well as 1 of the textbooks, and the other 3 each took their favorite textbook.¹⁻⁴ They examined the subject index in the back of the 4 sources and read all the pages that referenced "oligohydramnios," "hydramnios," and "polyhydramnios."

Dazed and confused, I realized that our residents, no, the co-authors of this short story, were right: There are multiple definitions of aberrant amniotic fluid in respectful textbooks and ACOG practice bulletins.

"Which is correct?" the quiet resident asked.

"We can use whichever we like," the second one said.

"Or on Monday, it can be amniotic fluid index <5.0 cm and on Tuesday, deepest pocket <1 cm..." the third one added and then stopped herself at her own suggestion.

"What would you like us to do?" the 3 asked, after a long pause, in a chorus. "What should we do?"

"Write a short story," is all I could think of to say.

When the 3 of them were down the hallway, I heard one of them say, "We will never get the credit for this story."

"Don't worry," one said as the elevator door opened. "No one has published anything meaningful from this hospital."

Alone in the office, I reviewed the table, as the elevator door closed on my head, and all I could think

Author Affiliations: Aurora Health Care, West Allis, Wis.

Corresponding Author: Suneet P. Chauhan, MD, Aurora Health Care, 8901 W Lincoln Ave, PAC, West Allis, WI 53227; phone 414.329.5647; fax 414.329.5928; e-mail suneet.chauhan@aurora.org.

Table 1. Definitions of Abnormal Amniotic Fluid

	ACOG Compendium 2005¹	Obstetrics 4th Ed.²	Williams 22nd Ed.³	Maternal-Fetal Medicine 5th Ed.⁴
Oligohydramnios	1. No measurable vertical pocket > 2 cm 2. AFI <5.0 cm 3. No measurable vertical pocket >2-3 cm 4. AFI < 5.0 cm	1. Largest AF pocket in 2 perpendicular planes <1 cm 2. AFI <5.0 cm 3. GA normative data	1. AFI <5 cm 2. AFI <5 cm 3. GA normative data	1. Less than 0.5 liter between 32-36 weeks 2. MVP <2 cm or AFI <8 cm 3. GA normative data
Hydramnios	No practice bulletin on the topic. No mention of hydramnios or of polyhydramnios in the index.	1. MVP >8 cm 2. AFI >20 cm	1. AFV >2000 ml 2. AFI > 24-25 cm 3. GA normative data 4. Moderate: 12-15 cm 5. Severe: >16 cm 6. LVP >8 cm 7. Differentiate between acute (16-20 wks) vs chronic	1. 1.5 to 2 liters at 32-36 weeks 2. Largest pocket >8 cm 3. Mild: 8-11 LVP

AFI=amniotic fluid index; AF=amniotic fluid; GA=gestational age; MVP=maximum vertical pocket; AFV=amniotic fluid volume.

of was: Perhaps precise thresholds for differentiating normal and abnormal conditions are unnecessary. But what about the concept of likelihood ratios and the guidelines established by the Evidence-Based Medicine Working Group.⁵ Forget the randomized controlled trials on the topic because it will be years before they are discussed in the textbooks.⁶⁻⁹ There will never be a consensus on this topic. If there were no agreement on the definition, how would we agree on the management of aberrant fluid? The last thought, before the elevator door slammed against my head again, was: If there are such fundamental differences on this topic, how often are the textbooks different on other subjects in obstetrics?

References

1. American College of Obstetricians and Gynecologists. 2005 compendium of selected publications. Washington, DC: ACOG:2005.
2. Gabbe SG, Niebyl JR, Simpson JL. *Obstetrics: Normal and Problem Pregnancies*. 4th ed. New York: Churchill Livingstone; 2002.
3. Cunningham FG, Leveno KJ, Bloom SL, Hauth JC, Gilstrap LC III, Wenstrom KD. Williams

4. Creasy RK, Resnik R, Iams JD. *Maternal-Fetal Medicine*. 5th ed. Philadelphia: Saunders; 2004.
5. Jaeschke R, Guyatt GH, Sackett DL for the Evidence-Based Medicine Working Group. Users' guide to the medical literature III. How to use an article about a diagnostic test. B. what are the results and will they help me in caring for my patients? *JAMA*. 1994;271:703-707.
6. Alfircvic Z, Luckas M, Walkinshaw SA, McFarlane M, Curran R. A randomised comparison between amniotic fluid index and maximum pool depth in the monitoring of post-term pregnancy. *Br J Obstet Gynaecol*. 1997;104:207-211.
7. Moses J, Doherty DA, Magann EF, Chauhan SP, Morrison JC. A

8. Magann EF, Doherty DA, Field K, Chauhan SP, Muffley PE, Morrison JC. Biophysical profile with amniotic fluid volume assessment: a randomized controlled trial of the amniotic fluid index versus single deepest pocket. *Obstet Gynecol*. 2004;104:5-10.
9. Chauhan SP, Doherty DA, Magann EF, Cahanding F, Moreno F, Klausen JH. Amniotic fluid index vs. single deepest pocket technique during the modified biophysical profile: a randomized controlled trial. *Am J Obstet Gynecol*. 2004;191:661-667.

Wisconsin Medical Journal

The mission of the *Wisconsin Medical Journal* is to provide a vehicle for professional communication and continuing education of Wisconsin physicians.

The *Wisconsin Medical Journal* (ISSN 1098-1861) is the official publication of the Wisconsin Medical Society and is devoted to the interests of the medical profession and health care in Wisconsin. The managing editor is responsible for overseeing the production, business operation and contents of the *Wisconsin Medical Journal*. The editorial board, chaired by the medical editor, solicits and peer reviews all scientific articles; it does not screen public health, socioeconomic or organizational articles. Although letters to the editor are reviewed by the medical editor, all signed expressions of opinion belong to the author(s) for which neither the *Wisconsin Medical Journal* nor the Society take responsibility. The *Wisconsin Medical Journal* is indexed in Index Medicus, Hospital Literature Index and Cambridge Scientific Abstracts.

For reprints of this article, contact the *Wisconsin Medical Journal* at 866.442.3800 or e-mail wmj@wismed.org.

© 2007 Wisconsin Medical Society